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10/040,422	01/07/2002	Eric M. Strasser	ITL.0633US	2184

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EXAMINER

AMINZAY, SHAIMA Q

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,422

Applicant(s)

STRASSER ET AL.

Examiner

Shaima Q. Aminzay

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

Detailed Action

Claim Objections

1. Claim 8 is objected to because of the following informalities: Claim 8 is referring to claim 10; it should be referring to claim 1 as a dependent claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102(e)

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(e) The invention was described in

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1-5, 9-13, 15, 17-19, 21-24, 26, 29 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Selig et al. (U. S. Patent Number 6492978).
4. Claim 1 rejection: A processor-based system comprising (*Figure 1, computer-based system*): a display (*Fig. 1, item 10, display*); a user operable element positioned over the display to enable viewing of the display through the element (*Figure 1, shows the element positioned over the display and the display can be viewed through the element. Also, column 3, lines 41-43; The touchscreen 16*

illustrated in FIG. 3 may take any conventional form and typically is in the form of a transparent flat or curved plate which matches the profile of the display monitor 18), said operable element having a non-monotonic response to user actuation (Data may be entered into the computer by touching keys on the keyboard and viewed on the monitor. The specific software loaded into the computer controls the specific functionality of the computer for any desired purpose (Column 1, lines 313-16); The touchscreen being actuated by firstly depressing individual ones of the keys 24 which in turn actuate the touchscreen (Column 4, lines 31-33); The individual keys 24 are independent and distinct from each other each providing multiple visible targets for the user to depress, which is unlike the smooth, plain surface of the touchscreen 16 itself. (Column 4, lines 1-4)); and a switch operatively coupled to the operable element (Unlike a mechanical switch (column 8, lines 63-67), the individual keys 24 need only provide the function of tactile feedback to the user while simultaneously actuating the touchscreen in an improved manner. In yet other embodiments (not shown), the keypad itself may be relatively flat, with discernible tactile keys formed therein. The keys may be thin membranes having flexibility for being displaced to actuate the touchscreens while providing tactile feedback to the user (Column 9, lines 1-8))

5. Claim 2, 17, and 21 rejection: A processor-based system comprising as recited in claim 1 (*Selig; Figure 1, computer-based system*) wherein the display is a cathode ray tube (*The display monitor 18 may take any conventional form such*

as cathode ray tube (CRT) operatively joined to a conventional, digitally programmable host (Column 3, lines 22-26)).

6. Claim 3, 18, and 22 rejection: A processor-based system as recited in claim 1 (Selig; *Figure 1, computer-based system*) wherein the display is a liquid crystal display (*The display monitor 18 may take any conventional form such as a liquid crystal display (LCD) operatively joined to a conventional, digitally programmable host computer 20. (Column 3, lines 22-26)).*
7. Claim 4, 19 and 23 rejection: A processor-based system as recited in claim 1 (Selig; *Figure 1, computer-based system*) wherein the user-operable element is a push button (*The keypad 14 may take various forms including a plurality of articulated or flexible keys 24 which operatively engage the touchscreen upon depression thereof by the user. (Column 4, lines 21-24)).*
8. Claim 5 and 24 rejection: A processor-based system as recited in claim 1 wherein the user-operable element is a rocker (*The touchscreen 16 illustrated in FIG. 3 may take any conventional form and typically is in the form of a transparent flat or curved plate which matches the profile of the display monitor (Column 3, lines 40-43). The keypad 14 may be attached to the touchscreen 16 in any suitable manner, which also allows it to be readily removed or repositioned as desired depending on the type and location of the desired virtual keypad 22 (Fig. 4; Column 6, lines 11-15))*
9. Claim 11 rejection: A processor-based system comprising: a touch screen display (Selig, *Figure 1, computer-based system* includes a processor, and a

display); a user operable element positioned over the display to enable viewing of the display through the element (Figure 1 and Figure 3; Transparent touchscreen (user can view the display) with the keypad positioned over the computer display; (Column 3, lines 41-43) The touchscreen 16 illustrated in FIG. 3 may take any conventional form and typically is in the form of a transparent flat or curved plate which matches the profile of the display monitor 18)), said operable element having a non-monotonic response to user actuation ((*Column 4, lines 43-45*); *As shown in more detail in FIG. 4, the individual keys 24 are preferably configured for being resiliently depressed toward the touchscreen 16 for actuation thereof in any conventional manner*); and a contactor operatively coupled to the operable element such that actuation of said element causes contact with the touch screen display ((Column 4, lines 43-45) *As shown in more detail in FIG. 4, the individual keys 24 are preferably configured for being resiliently depressed toward the touchscreen 16 for actuation thereof in any conventional manner*; (Column 5, lines 5-6) The support wall 24c is disposed atop the touchscreen 16 for actuating the touchscreen upon depression of the target 24a)

10. Claim 12 rejection: A processor-based system (*Selig; Figure 1, computer-based system*) as recited in claim 13 wherein the user-operable element is a push button (*The keypad 14 may take various forms including a plurality of articulated or flexible keys 24 which operatively engage the touchscreen upon depression thereof by the user. (Column 4, lines 21-24)*).

11. Claim 13 rejection: A processor-based system comprising (*Figure 1, computer-based system*): a display (*Fig. 1, item 10, display*); a user operable element positioned over the display to enable viewing of the display through the element (*Figure 1, shows the element positioned over the display and the display can be viewed through the element. Also, column 3, lines 41-43; The touchscreen 16 illustrated in FIG. 3 may take any conventional form and typically is in the form of a transparent flat or curved plate which matches the profile of the display monitor 18*), a switch operatively coupled to the operable element (*Unlike a mechanical switch (column 8, lines 63-67), the individual keys 24 need only provide the function of tactile feedback to the user while simultaneously actuating the touchscreen in an improved manner. In yet other embodiments (not shown), the keypad itself may be relatively flat, with discernible tactile keys formed therein. The keys may be thin membranes having flexibility for being displaced to actuate the touchscreens while providing tactile feedback to the user (Column 9, lines 1-8)*); and a resilient element (*As shown in more detail in FIG. 4, the individual keys 24 are preferably configured for being resiliently depressed toward the touchscreen 16 for actuation thereof in any conventional manner (Column 4, lines 43-45)*) connected to said operable element such that operation of said operable element is resisted with a non-monotonic force (*The touchscreen 16 has the inherent capability to average the applied force acting thereon under the key 24 and effect a position signal (Column 4, lines 13-16); Data may be entered into the computer by touching keys on the keyboard and viewed on the monitor.*

The specific software loaded into the computer controls the specific functionality of the computer for any desired purpose (Column 1, lines 313-16); The touchscreen being actuated by firstly depressing individual ones of the keys 24 which in turn actuate the touchscreen (Column 4, lines 31-33); The individual keys 24 are independent and distinct from each other each providing multiple visible targets for the user to depress, which is unlike the smooth, plain surface of the touchscreen 16 itself. (Column 4, lines 1-4)).

12. Claim 15 rejection: A processor-based system as recited in claim 13 wherein the resilient element is a coil spring which breaks out of column in response to compressive force *(The keypad may have individual keys which themselves may be rigid and formed of plastic mounted to a suitable frame, with internal springs which provide restoring force upon being depressed (Column 8, lines 47-50)).*
13. Claim 26 rejection: A method comprising: providing a user-operable element *(In accordance with the present invention, a method is disclosed for providing tactile feedback to a user for data entry on the smooth touchscreen (column 4, lines 15-17))* for installation over a display; providing a transparent part on the user-operable element that allows a portion of the display to be viewed through said element *(Figure 1, shows the element positioned over the display and the display can be viewed through the element. Also, column 3, lines 41-43; The touchscreen 16 illustrated in FIG. 3 may take any conventional form and typically is in the form of a transparent flat or curved plate which matches the profile of the display monitor 18);* and creating a non-monotonic response to actuation of said

element (*Data may be entered into the computer by touching keys on the keyboard and viewed on the monitor. The specific software loaded into the computer controls the specific functionality of the computer for any desired purpose (Column 1, lines 313-16); The touchscreen being actuated by firstly depressing individual ones of the keys 24 which in turn actuate the touchscreen (Column 4, lines 31-33); The individual keys 24 are independent and distinct from each other each providing multiple visible targets for the user to depress, which is unlike the smooth, plain surface of the touchscreen 16 itself. (Column 4, lines 1-4).*

14. Claim 29 rejection: A method as recited in claim 26 wherein providing a user-operable element includes providing a push button (*The keypad 14 may take various forms including a plurality of articulated or flexible keys 24 which operatively engage the touchscreen upon depression thereof by the user. (Column 4, lines 21-24).*
15. Claim 30 rejection: A method as recited in claim 26 wherein providing a user-operable element for installation over a display includes providing an element for installation over a touch screen display (*The keypad 14 may be attached to the touchscreen 16 in any suitable manner, which also allows it to be readily removed or repositioned as desired depending on the type and location of the desired virtual keypad 22 (Fig. 4; Column 6, lines 11-15).*
16. Claim 9 rejection: An apparatus comprising (*Shown in Figure 1 and 3; column 2 lines 41-44, and 48-51; column 1 lines 35-36*): a processor; display; a transparent

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touchscreen (user can view the display) with the keypad positioned over the display, the touchscreen may take any conventional form and typically is in the form of a transparent flat or curved plate which matches the profile of the display; *(Column 4, lines 43-45; Figure 4 and Column 5, lines 5-6)* the individual keys are preferably configured for being resiliently depressed toward the touchscreen for actuation thereof in any conventional manner and endless response (connection to the processor and program controlled). *Refer to Prior Art column 1, lines 31-33, and column 8, lines 63-67, Selig talks about including a mechanical switch in his invention, and connecting it to the touchscreen and the computer processor (He adds that the switch function may be varied by the specific software program in the computer).*

17. Claim 10 rejection: An apparatus as recited in claim 9 wherein the user-operable element is a push button *((Column 4, lines 21-24; Figures 5 and 6). "The keypad 14 may take various forms including a plurality of articulated or flexible keys 24 which operatively engage the touchscreen upon depression thereof by the user.").*

Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claim 6, 16 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selig (U. S. Patent Number 6492978), and further in view of Graham (U. S. Patent Number 6351260)

Selig Teaches that (Shown in Figure 1 and 3; column 2 lines 41-44, and 48-51; column 1 lines 35-36) a computer-based system includes a processor and a display; a transparent touchscreen (user can view the display) with the keypad.

Also, Selig teaches the switch operatively coupled to the operable element (Unlike a mechanical switch (column 8, lines 63-67), the individual keys 24 need only provide the function of tactile feedback to the user while simultaneously actuating the touchscreen in an improved manner. In yet other embodiments (not shown), the keypad itself may be relatively flat, with discernible tactile keys formed therein. The keys may be thin membranes having flexibility for being displaced to actuate the touchscreens while providing tactile feedback to the user (Column 9, lines 1-8))

Selig does not teaches a user-operable element having a lens positioned over said display to enable viewing of the display through the lens.

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Graham teaches that (column 2, lines 27-28, Figure 3) the computer system element or embodiment may include lenses, also it is a common knowledge that positioning a lens over the display, the user will be able to view the display through the lens (it is used for clarity and magnification).

At the time of the applicant invention it would have been obvious to one of ordinary skill in the art to replace Selig's touch screen with Graham's optical touch panel. The motivation is to provide a processor-based system with a lens over the display to view the display through the transparent lens ((Graham, column 7, and lines 3-6). "The benefit of using lenses is that the light is collimated such that the light beams can traverse larger screen areas and the fabrication of the waveguide sections is simplified.").

20. Claim 7, 20, 25, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selig (U. S. Patent Number 6492978) as applied to claim 1 above, and further in view of Carroll et al. (U. S. Patent Number 6057966).

Selig further teaches the use of switch and its operation with the touchscreen system (column 8, lines 63-67). Selig does not teach viewing of the display through the light pipe comprises a fiber optic bundle.

However, Carroll teaches that (column 1, lines 1-3; column 2, lines 1-4) a "display device includes an image source for producing an image, an image transmission device including at least one optically-transmissive fiber, the image transmission device being mountable on the body of a user, projection optics for receiving and relaying the image carried by the image transmission device, and a

display for receiving the image". (column 14, lines 35-41, and 44-49) "FIG. 33 centers on image-projection techniques. An image is formed on a miniature display device and projected through a series of light-pipes or fiber-optic bundles through a projection lens that casts an image on a clear screen in front of the eye. An LCD crystal can be used for the imaging screen such that the normal visual background can be blocked out to allow the user to concentrate on the presented image." "A miniature light-pipe or fiber-optic bundle with lens attached at one end is connected to a high-frame-rate CCD imager. The image can then be digitally enhanced and/or combined with computer-generated graphics. After the image is formed inside the CPU, the image data will be displayed on the small active matrix display system". At the time of the applicant invention it would have been obvious to one of ordinary skill in the art to replace Selig's touch screen with Carroll's (column 1, lines 66-67) "Display device includes an image source for producing an image" included light-pipes, ((column 14, lines) "An image is formed on a miniature display device and projected through a series of light-pipes or fiber-optic bundles through a projection lens that casts an image on a clear screen in front of the eye. An LCD crystal can be used for the imaging screen". The motivation is to provide a processor based display system with light-pipes or fiber optic technology.

21. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Selig (U. S. Patent Number 6492978), and further in view of Armstrong (U. S. Patent Number 6504527 B1).

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Regarding claim 14, Armstrong discloses ((column 4, lines 7-11) "two rubber-dome caps 36 positioned beneath a 2-way rocker member 30. The 2-way rocker member 30 has a first depressible surface 32 and a second depressible surface 34. Each finger depressible surface 32, 34 for functioning by depression with the shown respective dome-caps 36." (Column 5, lines 8-9) "A 4-way rubber-dome cap unit 56 with each of the 4 dome caps 60 support by base 58." (Abstract, lines 6-9) "In one preferred embodiment the proportional sensor(s) include resilient dome cap(s) for providing tactile feedback to the finger depressing the depressible surface.").

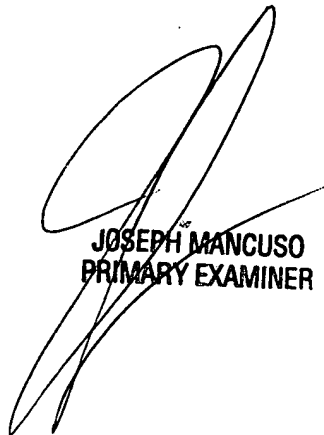
At the time of the applicant invention it would have been obvious to one of ordinary skill in the art to modify Selig's keyscreen to include the resilient dome caps. The motivation to add would have been "to provide an electronic device including a combination of an electronic visual display" (Armstrong, column 2, lines 16-18).

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
2. Armstrong discloses the Analog Controls Housed with Electronic Displays for Hand-Held Web Browsers.
3. Armstrong discloses Analog Controls Housed with Electronic Display for Remote controllers having Feedback Display Screens.
4. Spears discloses Optical Image Scanner with Lens.
5. Tsumura et al. discloses the protective cover for a portable apparatus touch panel
6. Tyneski et al. discloses the communication device having a moveable front cover for exposing a touch sensitive display
7. Murdock et al. discloses the touch panel.
8. Graham et al. discloses the user input device for a computer system.
9. Adler et al. discloses the adaptive frequency touchscreen controller.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 703-305-8723. The examiner can normally be reached on 8:00-5:00.
11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A Hjerpe can be reached on 703-305-4709. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

12. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

S. A.



JOSEPH MANCUSO
PRIMARY EXAMINER